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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MARTIN, NICHOLAS A

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/923,924

Applicant(s)

BALDONADO ET AL.

Examiner

Nicholas A. Martin

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 11-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-22 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/3/01 - 5/5/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. Claims 1-22 are presented for examination.

Claim Rejections - 35 USC § 112

2. Claims 15-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

- a. The following term lacks antecedent basis:
 - i. blades – claim 15, lines 2, 3; claim 16, line 4; claim 17, line 3.

Election/Restrictions

3. Restriction to one of the following inventions is required under 35 U.S.C. 12 1:
 - I. Claims 1-10, drawn to the routing method of data flow for traversing one or more routers, classified in class 709, subclass 241.
 - II. Claims 11-13, drawn to a network device for improving performance of one or more routers with the network device, classified in class 709, subclass 232.
 - III. Claims 14-22, drawn to a routing intelligence device for controlling a plurality of routers, classified in class 709, subclass 224.

The inventions are distinct, each from the other because of the following reasons:

4. Inventions I-II are related as a process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be
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practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. In the instant case, invention I has separate utility such as being a method of routing data where invention II is a system for improving performance of one or more routers. See MPEP § 806.05(e).

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. Because these inventions are distinct for the reasons given above and the search required for either Group I, Group II or Group III is not required for the other remaining groups, restriction for examination purposes as indicated is proper.

7. During a telephone conversation with the Applicant's Attorney (Peter Lee of Wilson Sonsini Goodrich & Rosati (650-712-0340)) on December 2, 2004 a provisional election was made without traverse to prosecute the invention of the elected group, claims 1-10. Affirmation of this election must be made by Applicant in replying to this Office action. Claims 11-13 and 14-22 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-2, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hefel et al. (hereinafter Hefel), US 5,563,875 in view of Cohen et al. (hereinafter Cohen), US 6,633,640.

9. As per claim 1, Hefel teaches a method of routing data flow traversing one or more routers in an internetwork, wherein the one or more routers are coupled to a plurality of service provider access links, the method comprising:

determining a prefix for the data flow (Col. 3, lines 34-35);

calculating for the plurality of service provider access links, each of which from a router of the one or more routers to the prefix via a distinct service provider access link from the plurality of service provider access links (Col. 4, lines 3-9, lines 15-23);

detecting a current service provider access link for the prefix, the current service provider access link corresponding to a current route to the prefix specified by a routing protocol (Col. 1, lines 49-58); and

selecting a new service provider access link from the plurality of service provider access links for routing the data flow to the prefix, wherein the new server provider access link is an optimal route (Col. 1, lines 35-37, lines 49-58).

10. Hefel does not teach a method of routing comprising:

calculating a plurality of performance scores for the plurality of service provider access links, each of the performance scores indicating performance of a route from a router;

the current service provider access link having a performance score from the plurality of service provider access links; and

the new service provider access link has a performance score from a plurality of performance scores.

11. Cohen teaches a method of routing data flow, comprising:

calculating a plurality of performance scores for the plurality of service provider access links, each of the performance scores indicating performance of a route from a router (Col. 4, lines 19-30; Col. 5, lines 23-32);

the current service provider access link having a performance score from the plurality of service provider access links (Col. 4, lines 12-16);

the new service provider access link has a performance score from a plurality of performance scores (Col. 4, lines 12-16).

12. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cohen and Hefel because they both deal with routing analysis for communicating data. Furthermore, the teaching of Cohen to allow calculating a plurality of performance scores for the plurality of service provider access links, each of the performance scores indicating performance of a route from a router; the current service provider access link having a performance score from the

plurality of service provider access links; the new service provider access link has a performance score from a plurality of performance scores would improve the functionality of Hefel's system by allowing for more pertinent and additional data to influence routing information.

13. As per claim 2, Hefel does not explicitly teach the method of claim 1, wherein the plurality of performance scores is at least partially dependent upon delay measurements across the plurality of service provider access links.

14. Hefel teaches a method wherein protocol identifies delay measurements across the plurality of service provider access links (Col. 2, lines 32-35).

15. Cohen teaches a method wherein the plurality of performance scores is at least partially dependent upon delay measurements across the plurality of service provider access links (Col. 4, lines 12-16; Col. 5, lines 23-32).

16. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cohen and Hefel because they both deal with delay measurements across a plurality of links. Furthermore, the teaching of Cohen to allow wherein the plurality of performance scores is at least partially dependent upon delay measurements across the plurality of service provider access links would improve functionality of Hefel's system by allowing for more pertinent and added data to influence routing information when dealing with delays across a network.

17. As per claim 9, Hefel does not explicitly teach the method of claim 1, wherein the plurality of performance scores is at least partially dependent upon load measurements.

18. Cohen teaches a method wherein the plurality of performance scores is at least partially dependent upon load measurements (Col. 4, lines 12-16; Col. 12, lines 10-15).

19. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cohen and Hefel because they both deal with utilizing data to rout information over a network. Furthermore, the teaching of Cohen to allow wherein the plurality of performance scores is at least partially dependent upon load measurements improves the functionality of Hefel's system by allowing for a wider range of data analysis to influence routing procedure when dealing with transmission of information across a network.

20. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hefel et al. (hereinafter Hefel), US 5,563,875 in view of Cohen et al. (hereinafter Cohen), US 6,633,640, in further view of Trans et al. (hereinafter Trans), US 2003/0016770 and Adams, Jeffrey B (hereinafter Adams) US 2002/0124100.

21. As per claim 3, Hefel does not explicitly teach the method of claim 1, wherein the plurality of performance scores is at least partially dependent upon jitter measurements across the plurality of service provider access links.

22. Cohen teaches a method wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links (Col. 4, lines 12-16).

23. Trans teaches a method wherein measurements are taken dependent upon jitter measurements (Paragraph [0387]).

24. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Trans, Cohen and Hefel because they all deal with the channel/route optimization to increase functionality over a network. Furthermore, the teachings of Trans to allow wherein measurements are taken dependent upon jitter measurements and Cohen to allow wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links would improve the functionality and effectiveness of Hefel's system increase the performance and data rate information of each channel/route.

25. As per claim 4, Hefel does not explicitly teach the method of claim 1, wherein the plurality of performance scores is at least partially dependent upon loss measurements across the plurality of service provider access links.

26. Cohen teaches a method wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links (Col. 4, lines 12-16).

27. Trans teaches a method wherein measurements are taken dependent upon loss measurements (Paragraphs [0213], [0575] and [0580]).

28. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Trans, Cohen and Hefel because they all deal with the channel/route optimization to identify signal functionality over a network. Furthermore, the teachings of Trans to allow wherein measurements are taken

dependent upon loss measurements and Cohen to allow wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links would improve the functionality and effectiveness of Hefel's system by allowing for identification of lost signals to be added to performance measurements in order to increase the performance and data rate information of each channel/route.

29. As per claim 5, Hefel does not explicitly teach the method of claim 1, wherein each of the plurality of performance scores comprises a scalar value.

30. Cohen teaches a method wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links (Col. 4, lines 12-16).

31. Trans teaches a method wherein measurement values comprise of a scalar value (Paragraph [0577]).

32. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Trans, Cohen and Hefel because they all deal with the channel/route optimization to identify signal functionality over a network. Furthermore, the teachings of Trans to allow wherein measurements comprise of a scalar value and Cohen to allow wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links would improve the functionality and effectiveness of Hefel's system by allowing for related quantities, when properly applied, to provide better insight into the quality of each route and signal in order to assess each performance measurement.

33. As per claim 6, Hefel does not explicitly teach the method of claim 5, wherein the plurality of performance scores is customized for HTTP traffic.

34. Cohen teaches a method wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links (Col. 4, lines 12-16).

35. Adams teaches a method wherein measurement values are customized for HTTP traffic (Paragraphs [0013], [0104] and [0218]).

36. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Adams, Cohen and Hefel because they all deal with the data transmission over a network. Furthermore, the teachings of Adams to allow wherein measurement values are customized for HTTP traffic and Cohen to allow wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links would improve the functionality and effectiveness of Hefel's system by allowing for more pertinent and additional data to influence routing information.

37. As per claim 7, Hefel does not explicitly teach the method of claim 5, wherein the plurality of performance scores is customized for video traffic.

38. Cohen teaches a method wherein the plurality of performance scores is customized for video traffic (Col. 3, lines 39-48; Col. 4, lines 12-16).

39. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cohen and Hefel because they both deal with utilizing data to rout information over a network. Furthermore, the teaching of

Cohen to allow wherein the plurality of performance scores is customized for video traffic improves the functionality of Hefel's system by allowing for a wider range of data types to influence routing information when dealing with transmission across a network.

40. As per claim 8, Hefel does not explicitly teach the method of claim 5, wherein the plurality of performance scores is customized for VoIP traffic.

41. Cohen teaches a method wherein the plurality of performance scores is customized for VoIP traffic (Col. 3, lines 39-48; Col. 4, lines 12-16).

42. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cohen and Hefel because they both deal with utilizing data to rout information over a network. Furthermore, the teaching of Cohen to allow wherein the plurality of performance scores is customized for VoIP traffic improves the functionality of Hefel's system by allowing for a wider range of data types to influence routing information when dealing with transmission across a network.

43. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hefel et al. (hereinafter Hefel), US 5,563,875 in view of Cohen et al. (hereinafter Cohen), US 6,633,640, in further view of Flockhart et al. (hereinafter Flockhart), US 5,754,639.

44. As per claim 10, Hefel does not explicitly teach the method of claim 1, wherein the plurality of performance scores is at least partially dependent upon user configurable weights.

45. Cohen teaches a method wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links (Col. 4, lines 12-16).
46. Flockhart teaches a method wherein dealing with information transmission is dependent upon configurable weights (Col. 3, lines 14-19; Col. 5, lines 46-58).
47. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Flockhart, Cohen and Hefel because they all deal with the data transmission over a network. Furthermore, the teachings of Flockhart wherein dealing with information transmission is dependent upon configurable weights and Cohen to allow wherein a plurality of performance scores is dependent upon measurements across a plurality of service provider access links would improve the functionality and effectiveness of Hefel's system by allowing for weighted information to influence routing data in order to transmit data within the shortest period of time.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents and publications are cited to further show the state of the art with respect to "Method And Apparatus For Performance And Cost Optimization In An Internetwork".


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|------|-----------------|------------------|
| i. | US 2002/0038331 | Flavin, James D. |
| ii. | US 6,611,872 | McCanne, Steven. |
| iii. | US 6,608,841 | Koodli, Rajeev. |
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas A. Martin whose telephone number is (571) 272-3970. The examiner can normally be reached on Monday - Friday 8:30 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3970.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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December 14, 2004

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